

What is Claimed Is:

1. A thermostable mutant B-type DNA polymerase comprising a Y-GG/A amino acid motif between the N-terminal 3'-5'-exonuclease domain and the C-terminal polymerase domain wherein the tyrosine of the motif is substituted with another amino acid.
2. The mutant B-type DNA polymerase according to claim 1 wherein the tyrosine of the motif is substituted with an amino acid with an aromatic side chain.
3. The mutant thermostable B-type DNA polymerase according to claim 1 having a Y→F, Y→W or Y→H mutation.
4. The mutant B-type DNA polymerase according to claim 1 wherein the tyrosine of the motif is substituted with an amino acid with an hydrophilic side chain.
5. The mutant thermostable B-type DNA polymerase according to claim 1 having a Y→N or Y→S mutation.
6. The mutant thermostable B-type DNA polymerase according to claim 1 wherein its wild type form is obtainable from Euryarchaea.
7. The mutant thermostable B-type DNA polymerase according to claim 1 wherein its wild type form is obtainable from *Thermococcus aggregans*.
8. The mutant of a thermostable B-type DNA polymerase according to claim 1 wherein the amino acid sequence of its wild type form is $\geq 80\%$ homologous to the amino acid sequence of wild type *Tag* DNA polymerase.
9. A DNA encoding a thermostable mutant DNA polymerase of claim 1.
10. A vector containing the DNA according to claim 9.
11. A transformed host cell comprising the vector according to claim 10.

12. A process for obtaining a polymerase according to claim 1 comprising the steps of cloning and mutagenesis of the gene, followed by the expression and purification of the protein.
13. A method of using the polymerase according to claim 1 for synthesizing nucleic acids.
14. A method of using the polymerase according to claim 1 for polymerase chain reactions.